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AUTHOR	Simmons, Kenneth L.
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ABSTRACT

One of 33 self-paced instructional modules for training industry services leaders, this module contains three sequential learning activities on preparing videotapes for an industry services program. (Industry services are manpower services provided by public agencies to new or expanding private industries.) The first learning activity is designed to provide the learner with the needed background information on videotape preparation. The second provides for application in a practice situation, and a final checkout activity allows the learner to prepare videotapes in a real work situation, such as when employed or when serving as an intern learner. Feedback devices (learner self-test and performance checklist) are included for use by the learner and instructor/supervisor to assess progress. Other material is appended for guidance in performing the objectives: Diagrams of simple and complete videotape systems, of threading patterns, and of helical scan patterns; a sample script; and a videotape planning sheet. (This module is the sixth in a group of seven on preparing training materials.) (JT)

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MODULE NUMBER VIII-F

PREPARING VIDEOTAPES FOR AN INDUSTRY SERVICES PROGRAM

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SELF-PACED

INSTRUCTIONAL MODULE

Prepared by:
Kenneth L. Simmons

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College of Education
Mississippi State University
Mississippi State, Mississippi

Direct inquiries to the:

Research and Curriculum Unit
for
Vocational-Technical Education
College of Education
Drawer DX
Mississippi State, Mississippi 39762
Phone - (601) 325-2510

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INSTRUCTIONAL PROCEDURE

This module contains two sequential learning activities and a final check-out activity. A brief overview precedes each learning activity and the final check-out activity. Each learning activity and the final check-out activity provide learning experiences to help you accomplish the objectives. Feedback devices (learner self-test, worksheet, and performance checklist) are provided to help you determine when each objective has been accomplished.

The first learning activity is designed to provide you with the needed **background information**. The second learning activity is designed to give you an opportunity to apply that information in a **practice** situation. The **Check-Out Activity** is the final learning activity. It is designed to allow you to prepare videotapes in a real work situation, such as when you are employed or when you are serving as an intern learner. The **Performance Checklist** (Appendix A) is used by the learner and the instructor/supervisor to assess progress. The checklist is applicable for both practice performance, and performance in the real work situation.

After reading the **Objectives** and the **Introduction** on pages 3 and **4**, you should be able to determine how much of this module you will need to complete before the **Check-Out Activity**.

* If you already have the necessary **background information** required for preparing videotapes, you may not need to complete **Learning Activity I**, p. **4**.
* If you already have had **practice** in preparing videotapes, you may not need to complete **Learning Activity II**, p. 25.
* Instead, with the approval of your instructor or supervisor, you may choose to proceed directly to the **Check-Out Activity**, p. 27, and attempt to prepare videotapes when you have access to a **real work situation**.

Your instructor or supervisor may be contacted if you have any difficulty with directions, or in assessing your progress at any time.

SUPPLEMENTARY TEACHING/LEARNING AIDS

An effort has been made to make this module as self-contained as possible. The information contained in the module should be sufficient to develop "entry-level" knowledge and skills. However, much more has been written on this topic. The advanced learner may wish to attain higher levels of knowledge and skills.

A list of resources which supplement those contained within the module follows. Check with your instructor or supervisor (1) to determine the availability and the location of these resources, and (2) to get assistance in setting up additional learning activities.

Learning Activity I

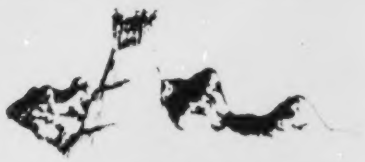
* Almen, Buzz Van. "Video Tapes For the Classroom." **School Shop**, 32 (May, 1973), page 48.
* Boucher, Brian G., et al. **Handbook and Catalog for Instructional Media Selection**. Englewood Cliffs, New Jersey 07632: Educational Technology Publications, 140 Sylvan Avenue, 1973, pp. 47-51.
* Connochie, T. D. **TV for Education and Industry**. Vancouver, Canada: Mitchell Press Limited, 1969, pp. 87-92.
* Friedman, Nathan L. "Instant Playback in the Shop." **Industrial Arts and Vocational Education**. 12 (January, 1968), pp. 34-35.
* Harrison, William. "A New Teaching Tool." **Agricultural Education**. 43 (October, 1970), p. 101.
* McAdams, Robert J.; and Vento, Charles J. **Portable Video Tape Recorder**. ED 077238 (microfiche or hardcopy), Betheseda, Maryland: ERIC Document Reproduction Service, 1969, pp. 2-57.
* Sedlik, Jay. "How to Get Into TV for Training." **Educational and Industrial Television**. (July, 1976), pp. 20-22.
* Manufacturers of videotape equipment (most highly recommended sources)

Learning Activity II

* Media center specialists
* Videotape equipment
* Person to assist in taping exercises
* Manufacturer's equipment manuals

Check-Out Activity

* Media center specialist
* Videotape equipment
* Client company representative
* Person to assist in videotaping procedures
* Manufacturer's equipment operation manuals



OBJECTIVES

I. After completing the required reading, take the learner self-test to demonstrate that you attained knowledge of preparing videotapes. You should complete all items correctly. **(Learning Activity I)**

II. After analyzing the performance instructions, complete all the designated practice experiences in preparing videotapes. Your work must conform to the worksheet and checklist provided. **(Learning Activity II)**

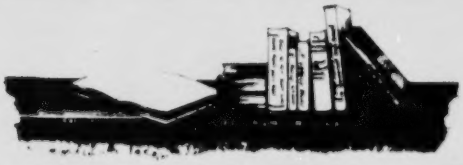
III. In an actual work situation, prepare videotapes for an industry services program. Satisfactory performance will be realized when all items on the performance checklist (Appendix A) are rated "yes." **(Check-Out Activity)**

PREPARING VIDEOTAPES FOR INDUSTRY SERVICES PROGRAMS

I. INTRODUCTION

One of the most modern techniques of communicating ideas concerning industrial operations is through the medium of videotape. Videotape recording (VTR) makes it possible to record simultaneously both sight and sound on magnetic tape. The recorded picture with sound may be played back immediately.

This unit will assist you in preparing videotapes for an industry services program. It will not be possible to refer to the operation of any given videotape system, since a variety of different makes and models are on the market. However, information applicable to most models will be given.



LEARNING ACTIVITY 1: INFORMATION

You should study the information presented in the following pages. You may wish to read supplementary information from other sources pertaining to videotaping. After reading these materials, you will demonstrate knowledge of preparing videotapes by completing the **Learner Self-Test**, p. 17. You will be evaluating your knowledge by comparing your self-test answers with the **Answers to Self-Test**, p. 21.

Due to the length of the list of "Terms Unique to the Module," they were included at the end of the information outline under item Number XXVII.

I. ADVANTAGES OF A VTR SYSTEM

A. All learners can see the activities being demonstrated.

B. **Learners who do not understand a lesson presented can review the lesson again without taking time away from other learners.** It is possible for a learner to pinpoint an area that is not understood and rerun the particular tape until the point is clarified.

C. **Videotape involves simultaneous sound and motion on the tape.**

D. **Normal outdoor or indoor light is usually adequate for black and white recordings.**

E. **Varieties of selected situations may be illustrated to improve a trainee's performances.**

F. **Self-evaluation by learners may be undertaken more effectively in performing various tasks.**

G. **Persons with limited photographic technical knowledge can learn to prepare videotapes of training quality.**

II. USES OF VIDEOTAPE RECORDINGS IN INDUSTRY SERVICES

A. **Specific tasks performed by workers in an industry can be recorded as instructional aids.**

B. **The overall process of an industry to be served can be recorded as an orientation tool (frame of reference for learners).**

III. MOST COMMON COMPONENTS OF A VIDEOTAPE RECORDING SYSTEM

A. **Video camera complete with viewfinder and appropriate lens**

B. **Battery pack which can be used when electrical outlets and extension cords are either not available or are cumbersome to manage**

C. **Microphone (built into camera or external)**

D. **Recording unit (videotape recorder with built-in battery)**

E. **Monitor-receiver for immediate play back.** Videotaping can be accomplished without a monitor, since the camera operator can view the picture through the viewfinder. However, if possible, a monitor should be available at the site to review the picture and sound quality of the tape. Any regular TV set can normally be used as a monitor. The videotape equipment contains the accessories necessary to use the monitor.

F. **Tripod and dolly**

G. **Cords and ancillary equipment**

It is important that the videotape equipment have the combined features of self-contained power and light weight for versatility in industry services programs.

For purposes of this module, the term "portable" suggests the unit is equipped with a battery pack. It may be used in the field without the necessity of AC power. Those components that may be moved from place to place and require AC power for operation are designated as "transportable."

IV. POWER CONSIDERATION OF VIDEOTAPE RECORDING SYSTEMS

A. **A particular system may be battery operated.** But, batteries must be recharged periodically.

B. **Another system may be battery and 117 VAC operated, with the capability of using the 117 VAC power simultaneously with battery charge.**

C. **Or, a particular system may be 117 VAC operated, with the limitations of the line/cord operation.**

Battery operation time ranges from a low of 20 minutes (internal VTR battery) to a high of three hours (external, plugged-in battery pack) before recharging is required. Most manufacturers offer a battery charging unit as an optional accessory if the capability to "recharge" is not built into the system. However, this will vary depending on whether the system has black and white capabilities or color.

V. AVAILABILITY OF LOW COST VIDEOTAPE EQUIPMENT

A. **Domestic and foreign components are on the market at relatively low cost.**

B. **A complete system of camera, battery pack, videotape recorder, monitor, tripod, dolly, and ancillary equipment may be purchased for as little as $1500 with quality adequate for training purposes.**

C. **More durable equipment may run as high as $6000.** (If color, the cost may be much higher.)

D. **Most of the larger firms market both the low cost and the more expensive portable systems.**

E. **The low-cost systems use half-inch videotape width.**

VI. EASE OF OPERATION

A. **Videotape recorders are relatively easy to operate.** Some people consider that they are as easy to operate as a motion-picture projector.

B. **After connecting the camera and the receiver to the VTR, there are usually two or three simple buttons or switches necessary to activate the entire system.**

C. **Camera operation is relatively difficult.** The f–stop depends on the light level. The focus depends on the distance from the subject to the lens. However, with 3-6 hours of practice, one can learn to prepare the equipment and record quality videotapes.

D. **Most VTR's have automatic audio level controls.**

VII. ASSEMBLING A SIMPLE SYSTEM

A. **Simple portable systems consist of two pieces of equipment–the camera connected to the receiver.** This system is merely used to monitor a picture. No videotape is produced.

B. **Both units are plugged into the wall outlet for power. (See Appendix B.)**

VIII. ADDING THE VIDEOTAPE RECORDER (VTR)

A. **The addition of the VTR allows anything viewed by the camera to be recorded.** It may be immediately played back.

B. **The videotape lasts indefinitely if stored away from high temperatures and electrical or magnetic equipment.**

C. **Both camera and receiver are connected to the VTR.** The VTR may be operated by battery or it may be plugged into the wall outlet. (See Appendix C.)

IX. THREADING THE REEL TO REEL VIDEOTAPE RECORDER

A. **A threading diagram usually accompanies the VTR.**

B. **An instruction booklet is provided with each VTR.** See sample threading patterns shown in Appendix D.

C. Good operating techniques are listed in the manufacturer's instruction manual.

D. Always keep threading path clean. Cloth and brushes are usually provided with the VTR.

E. Check to see that the tape path is properly followed.

F. Allow the reels to come to a complete stop without touching them.

Many modern videotape recording units utilize cassette tapes which simply require "plugging-in," much the same as audio-cassette recorders.

X. RECORDING WITH THE VTR

A. The VTR records much the same way as a regular audiotape recorder.

B. The videotape is threaded in a slightly slanted fashion about the helical ring containing the recording head. (See Appendix E.)

C. When properly threaded, the VTR requires only pushing one or two switches in order to record.

D. The VTR may be controlled from the camera trigger.

E. The images being recorded will automatically be reflected by the monitor.

XI. EQUIPMENT AND ITS OPERATION

A. The television unit, which can also receive commercial broadcasts, acts as a monitor when the camera is used during the taping session.

B. The camera should be equipped with a lens capable of focusing on subjects at long-range as well as those at mid- and short-ranges.

C. A sensitive microphone may be plugged into the tape recorder to pick up sound from several yards away.

D. Most cameras have built-in microphones.

E. The camera, once properly set, needs no additional focusing, unless the camera is moved.

F. The operator follows the action by moving the swivel controlled camera.

XII. VIDEO AND AUDIO METERS ON THE VTR

A. The audio meter

1. The audio meter is essentially a volume indicator.
2. It is usually equipped with automatic level input.
3. The meter should be set so that variations in source volume fluctuation can be accommodated without getting loudness distortions, or no sound at all.
4. Audio meters will indicate a normal fluctuation in sound.
5. If the needle favors one end or the other of the scale, adjustment is needed.
6. The red band area of the scale is the distortion level (too loud).

B. The video meter

1. The video meter gives a contrast reading.
2. It is usually equipped with automatic level input.
3. A low setting will cause a lack of contrast and will look gray and foggy.
4. A setting too high will cause over-exposure or "white out."
5. Always follow directions found in the manufacturer's instruction booklet.

XIII. MICROPHONES

A. Microphones of good quality should be purchased.

B. When recordings require more than one microphone, a mixer is also required for multi-jack outlets. This process requires a high degree of technical knowledge.

XIV. DUBBING

A. Adding sound after the video recording (dubbing) eliminates whatever sound may have been previously recorded on the tape.

B. A live microphone narration or previously recorded audio tape recording may be used for dubbing on some VTR's.

C. A reel-to-reel videotape has only one sound track, and sound may not be added to sound as in commercial television. However, with cassette tapes, sound may be added to sound, since the tape has two tracks.

XV. VIDEOTAPES

A. Characteristics of inexpensive tapes

1. Inexpensive tapes are either too abrasive and wear down recording heads, or they are too soft and clog the recording heads.
2. Inexpensive tapes have microscopic bits that flake off or irregularities in the tape coating consistency that cause "dropout" on the screen (horizontal white or dark lines, or scratches on the screen).

B. Writing specifications for tapes

1. State that "videotape shall be free from dropout of video quality."
2. Tape should have still frame capabilities.
3. Tape should have oxide qualities that prevent video head wear and head clogging.
4. Tape should have proper signal-to-noise ratio (graininess of picture). There should be a minimum of physical and magnetic defects.

C. Care of videotape

1. Place in a box.
2. Store in upright position rather than flat.
3. Place in area where temperature and humidity are moderate.
4. Box should have hubs to support the reel.

D. Use of damaged tape

1. Do not use stretched or wrinkled tape. It does not produce good recordings.
2. Splicing should be avoided unless absolutely necessary.
3. When splicing, follow instruction manual closely.

XVI. CARE AND MAINTENANCE OF THE VTR

Severe jolting will do more harm to a piece of television equipment than to any other audiovisual device because of the complexity and delicacy of the many parts.

XVII. HOW TO OBTAIN MAXIMUM SERVICE FROM THE VTR

A. Non-portable equipment should be transported from one room to another by use of carts.

B. **Cover the VTR with the lid when not in use.** This keeps out dust and moisture.

C. **Keep recording heads and tape path clean.** Rotate video head to a position where it can be cleaned easily.

D. **Use cleaner supplied by the manufacturer.**

E. **Clean the following parts, using cotton swabs and toothpicks.**

1. Edges of the video recording head
2. Metal drums around which the heads rotate
3. Video erase head
4. Control track head
5. Audio erase head
6. Audio record head

F. **Clean capstans and rubber rollers with isopropyl alcohol.** This alcohol does not cause the rubber to deteriorate.

XVIII. SCRIPT WRITING FOR VIDEOTAPE RECORDINGS

The process of preparing videotapes is somewhat similar to the developing of motion pictures of slidetape presentations. In order to avoid unnecessary effort and to work in a systematic fashion, a script is generally developed. The script may be developed by using a four-column format. The first column should describe the camera position of each shot. The second column should give the amount of time in seconds the camera will remain on each scene. The third column is designated for the time allowed for the narrative. The fourth column should contain the specific words contained in the narrative or audio. (See Appendix F.)

XIX. SOME DRAWBACKS IN PREPARING VIDEOTAPES

A. The initial dollar outlay for equipment and tapes is sizeable. (The equipment can, however, be leased or rented.)

B. Two people are required to produce videotapes—one to operate the camera and recorder, while the other provides directions or performs demonstrations.

C. The first few times the equipment is used, the process is time consuming.

XX. GENERAL CAPABILITIES OF VARIOUS VIDEOTAPE RECORDING SYSTEMS

A. Instant playback

B. Built-in monitor

C. Black and white recording

D. Color recording

E. Record from TV receiver

F. Electronic viewfinder

G. Mechanical viewfinder

H. Optical viewfinder

XXI. SPECIAL CAPABILITIES OF SOME VIDEOTAPE RECORDERS

A. Stop-action

B. Sound dubbing

C. Video editing

D. Tape footage counter

E. Video and audio signal meters

F. Slow motion

G. Automatic shut off

H. Elapsed time counter

XXII. TAPE SIZE AND LOADING

A. 1/4 inch tape

B. 1/2 inch tape

C. 3/4 inch tape

D. Reel-to-reel (older models)

E. Cassette (newer models)

XXIII. MAXIMUM RECORDING TIMES PER REEL OR CASSETTE

A. 60 minutes

B. 40 minutes

C. 38 minutes

D. 30 minutes

E. 25 minutes

F. 20 minutes

XXIV. TIPS ON OBTAINING GOOD VIDEOTAPE RECORDINGS

A. Synchronize the audio with the video, e.g., make sound simultaneous with action.

B. Do not allow the camera to wiggle while following the action. This causes jerky motion and blurs the recording.

C. Properly adjust the audio level while recording, unless the VTR has automatic audio input level.

D. Properly adjust the contrast level, unless VTR has automatic input level.

E. Hold the camera on each scene the proper amount of time, as indicated in the script. Correct timing will require practice and evaluation. You will have to use your own judgement as to what is an adequate amount of time per scene.

F. Remember the overall objectives of the recordings. Try to make each scene accomplish the objectives.

G. Try to develop a smooth and unified transition from one scene to the next.

H. Perform any narration with great care. The narrator should be alert, articulate, and very familiar with the script. He/she should be lively and speak distinctly.

I. Properly adjust camera to assure proper width of the field of view.

J. Properly focus lens on each scene when necessary.

XXV. OTHER FACTORS OF SPECIAL CONCERN IN VIDEOTAPING

A. Will auxillary lighting be needed?

B. What type of light is required?

C. Are filters required for the cameras?

D. What precautions will be taken to avoid extremely intense lights, such as welding?

E. What is the noise level of the area to be taped?

F. Has permission been granted to make videotapes of the company's activities?

G. **Is there adequate room for positioning the camera?**

H. **Is the area congested?**

XXVI. EDITING VIDEOTAPES

This module will not cover the details of editing videotapes. This task requires a considerable amount of technical knowledge and skills. If at all possible, the industry services leader should acquire the services of a media specialist who has experience in editing videotapes. Additional equipment will be required for editing.

No doubt, videotapes should be edited when time permits. Editing out unnecessary tape footage will increase the efficiency and effectiveness of training. However, one might succeed in preparing relatively high quality videotapes without editing if the taping procedures are carefully planned. Cost/benefit factors should be examined when determining how much editing, if any, the tapes will receive. Videotapes produced for a specific new and expanding industry are seldom used in more than one training program.

XXVII. TERMS UNIQUE TO MODULE

A. **Amplifier.** Strengthens a signal to the point where it can be heard over an audio speaker to be reproduced as a television picture.

B. **Audio.** The sound portion of a television signal.

C. **Audio Input.** A jack that provides for a microphone plug-in. Provision is also made for other audio signals coming from audio tape recorders, videotapes, and other electronic sources of sound. The latter are usually plugged into the audio "line" input.

D. **Audio-Video Mixer.** (See also Modulator.) A device that combines the separate audio and video signals from microphone and camera high frequency signal for transmission to the receiving equipment where the signals are again separated and directed to the speaker and television screen.

E. **Brightness.** The brilliance of the television picture.

F. **Close-up Shot.** Very narrow angle picture giving full view to a small area.

G. **Compatibility.** The capability of using a piece of television equipment from one manufacturer with that of another manufacturer.

H. **Contrast**. The brightness relationships between the various light and dark elements.

I. **Dropout**. The loss of portions of a tape recorded signal due to tiny pieces of emulsion breaking loose from the videotape. Horizontal lines on the television picture result from dropout.

J. **Dubbing**: Inserting new portions of video or audio recording on a videotape in the place of original portions.

K. **Helical Scan**. The type of recording made on videotape by portable videotape recorders. It is accomplished by having the recording head rotate in circular (helical) fashion while running the tape past it at a slant. The result is a "slant track" recording.

L. **Instant Replay**. Rapidly rewinding and playing back some scenes just recorded on videotape.

M. **Modulator**. A device that combines that video signal from a TV camera and the audio signal from a microphone or similar source and impresses them on a carrier signal for transmission on a closed-circuit system.

N. **Monitor**. Any receiver used by a cameraperson or teacher to observe the picture being received by the viewer. In television studios, a monitor is a high quality television receiver used in video transmission. Video monitors must be used with video cameras, and cannot be tuned to channels, and normally have no provision for sound reception. In portable situations, receivers are used in monitors.

O. **Monochrome**: The image produced on a black-and-white television system.

P. **Noise**. Electrical interference in audio and video transmission producing a "salt-and-pepper" effect on the television picture. Greater interference produces a "snow" effect. The noise ratio is more pronounced near the fringes of a broadcast reception area.

Q. **Pan**. To follow action to the right and left with the camera; to move the camera across a screen.

R. **Playback**. The replaying of a television recording.

S. **Receiver**. Any television set designed for home or school reception of picture and sound. In portable situations, a receiver serves as a monitor also.

T. **Roll**. An upward or downward movement of the picture on the screen of a receiver.

U. **Solid State**. Equipment that contains transistors rather than tubes as part of its electronic circuitry.

V. **Telephoto Lens**. Lens of a very narrow angle used to provide large size images at extreme distances.

W. **Video**. The electrical counterpart of the picture portion of a television program.

X. **Video Input**. A jack that provides for video picture signal input from either a television camera, a PVTR, or a receiver.

Y. **Viewfinder**. A small camera-mounted monitor used by the cameraperson for framing and focusing.

Z. **Zoom Lens**. A special camera lens whose focal length is quickly adjustable from close up to distant scenes and is always in focus on an object or scene within this wide range.

LEARNER SELF-TEST

This is a checkpoint knowledge test needed before proceeding to develop a videotape in a practice situation. Follow the instructions given with each item. Check your answers with the **Answers to Self-Test** which follow. If you fail to complete all items correctly, you may wish to refer to appropriate parts of the module.

1. Videotape recorders may be operated by battery or 117 VAC. Circle the correct answer.

   True

   False

2. Name four components of a videotape system.

   a.

   b.

   c.

   d.

3. Which of the following is **not** an advantage of videotaping? Circle the correct answer.

   a. Learners produce the tapes

   b. Learners can view demonstrations effectively

   c. Learners can use the tapes over again.

   d. Producing videotapes does not require extensive technical knowledge and skills.

4. A threading _____ usually accompanies the VTR equipment.

5. The VTR may be controlled from the _____ trigger.

6. The audio meter is simply a _____ indicator.

7. The video meter gives a _____ reading.

8. Adding sound after the video recording has already been made is called _____ .

9. Which one of the following may indicate inexpensive recording tape?

   Circle the correct answer.

   a. Bright surface on one side

   b. Dull surface on one side

   c. Horizontal white lines across the monitor screen

   d. Worn recording head

10. To work in a systematic fashion in preparing videotapes, a _____ should be used.

11. List five possible capabilities of a videotape recorder.

    a.

    b.

    c.

    d.

    e.

ANSWERS TO SELF-TEST

1. True
2. Any four of the following:
   a. Video camera
   b. Battery pack
   c. Microphone
   d. Recording unit
   e. Monitor-receiver
   f. Tripod and dolly
   g. Cords and ancilliary equipment
3. a.
4. Diagram
5. Camera
6. Volume
7. Contrast
8. Dubbing
9. c.
10. Script
11. Any five of the following:
    a. Instant playback
    b. Built-in monitor
    c. Black-and-white recording
    d. Color recording
    e. Record from TV receiver
    f. Electronic viewfinder
    g. Mechanical viewfinder
    h. Optical viewfinder
    i. Stop-action
    j. Sound dubbing

k. Video editing

l. Slow motion

*Proceed to the next learning activity for practice in planning and preparing videotapes.

LEARNING ACTIVITY II: PRACTICE PERFORMANCE

Prior to taping activities in a real work situation, you will be required to practice using the videotape equipment. You may wish to refer to the information found in **Learning Activity I**. You may wish to read several articles on videotaping from outside sources. You may also contact the manufacturer's representative for assistance in using the equipment in the practice exercise. Media centers in public educational institutions can also assist you in preparing videotapes. You must complete the **Videotape Planning Worksheet** from Appendix G. Next, you must also develop a short videotape of a specific training activity. You will be evaluating your performance in developing the videotape using the **Performance Checklist** (Appendix A).

I. Determine the objective of the videotape. Will it show a specific task being performed, or will it show an overview of several work activities? One suggestion is to practice videotaping ongoing activities in a vocational machine shop program. You may wish to tape the steps involved in the use of several machines or the machining of a specific item. Complete the **Videotape Planning Worksheet** (Appendix G) as a basis for completing the practice exercises.

II. Plan the steps needed to complete the videotape. You may refer to the information in **Learning Activity I.**

   A. List the objectives for developing the videotape.
   B. List the operations, steps, or tasks that are to be taped.
   C. Arrange the operations, steps, or tasks in the proper sequential order.
   D. Solicit the assistance of several of your peers or co-workers in making the videotapes.
   E. Develop a script for the videotaping process. (See Appendix F.)
   F. Secure the necessary equipment for the taping process.

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1. Camera
2. Monitor-receiver
3. Videotape recorder (VTR)
4. Battery pack, if necessary
5. Tripod and dolly
6. Other ancilliary items (including the appropriate videotape)

G. Familiarize yourself and your assistants with the script.

H. Check to be sure that the equipment instruction manuals are available.

III. Proceed with videotaping.

A. With your assistants, the equipment, and the script, record several scenes for practice. Check to see if all equipment is working properly.

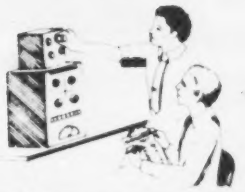
B. Check the scenes taped for the quality of audio and video. (The tape may be played back immediately, erased, and re-recorded.)

C. Once you get the "feel" of the system, record the list of scenes outlined on your script.

D. Have someone assist you in critiquing the tape and make improvements when necessary.

IV. Use the **Performance Checklist** from Appendix A to check your competency in videotaping. Follow the instructions provided in the checklist.

*Completion of the previous learning experiences should have prepared you for preparing videotapes in a real work situation. Proceed to the **Check-Out Activity**.



CHECK-OUT ACTIVITY: PERFORMANCE IN REAL WORK SITUATION

The activity which follows is intended to be conducted in an actual on-the-job situation. It may be completed without completing the two learning activities, if you think you have the proficiency to do so.

You must videotape the operations of an industry that exists or is about to locate in your area. The videotape will be used in the training program to be developed for the said industry. You will likely be required to travel to the parent plant where operations similar to the local plant are ongoing. You must plan ahead for the necessary assistance in accomplishing the task. You must also determine if the plant is unionized, as this factor may affect the extent you can videotape plant operations. If you travel by air out-of-state with state-owned equipment, you should insure it for the maximum amount allowed by the airline.

You may wish to contact others in vocational education who have had experience in videotaping industry operations for advice. You may also wish to contact the media center or educational television station for assistance. Your performance will be judged by your instructor or supervisor using a checklist. All items on the **Performance Checklist** (Appendix A) must be rated "yes."

*After completing the **Check-Out Activity**, you may select another module for study. Your instructor or supervisor may be contacted if you have any difficulty in selecting a module.

APPENDIX A

PERFORMANCE CHECKLIST

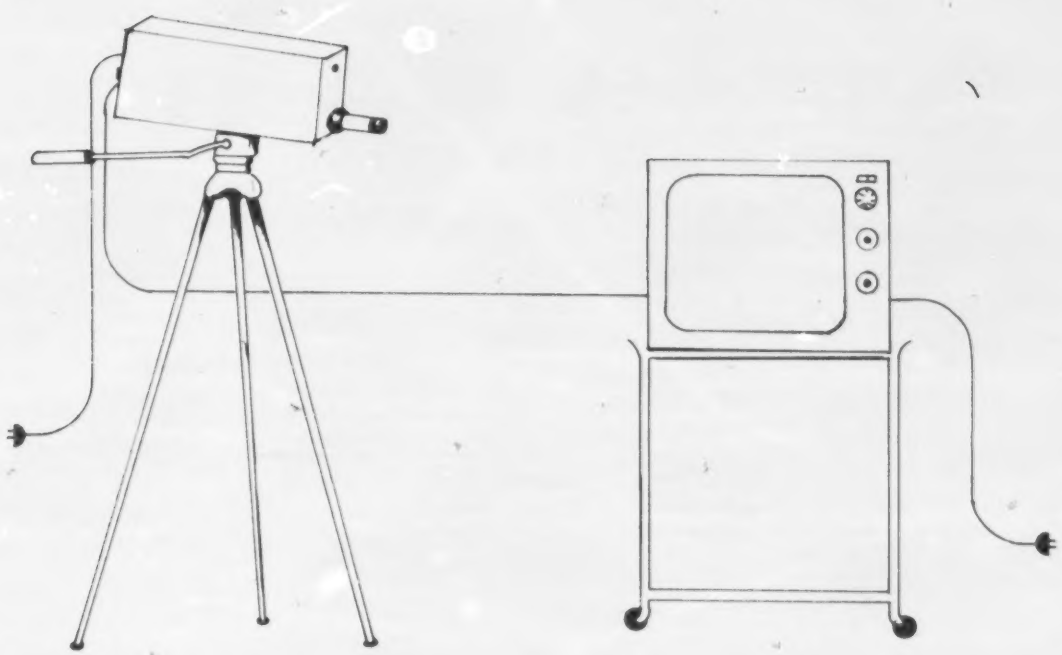
Preparing videotapes for an industry services program.

INSTRUCTIONS: If the performance is satisfactory, write YES in the space provided. If the performance is unsatisfactory, write NO in the space. Each item must be rated "yes" for satisfactory task performance.

1. The audio and video were properly syncronized. ☐
2. The recordings were free from jerks and unnecessary motion. ☐
3. The recordings had proper contrast. ☐
4. The recordings had proper audio quality. ☐
5. Adequate time was given to each scene. ☐
6. The recordings adequately explained the processes as intended in the objectives. ☐
7. The tape had unity and continuity from one scene to the next. ☐
8. The narration was sharp, crisp, and interesting. ☐
9. The correct width of field was ascertained. ☐
10. The correct focus was used for each scene. ☐

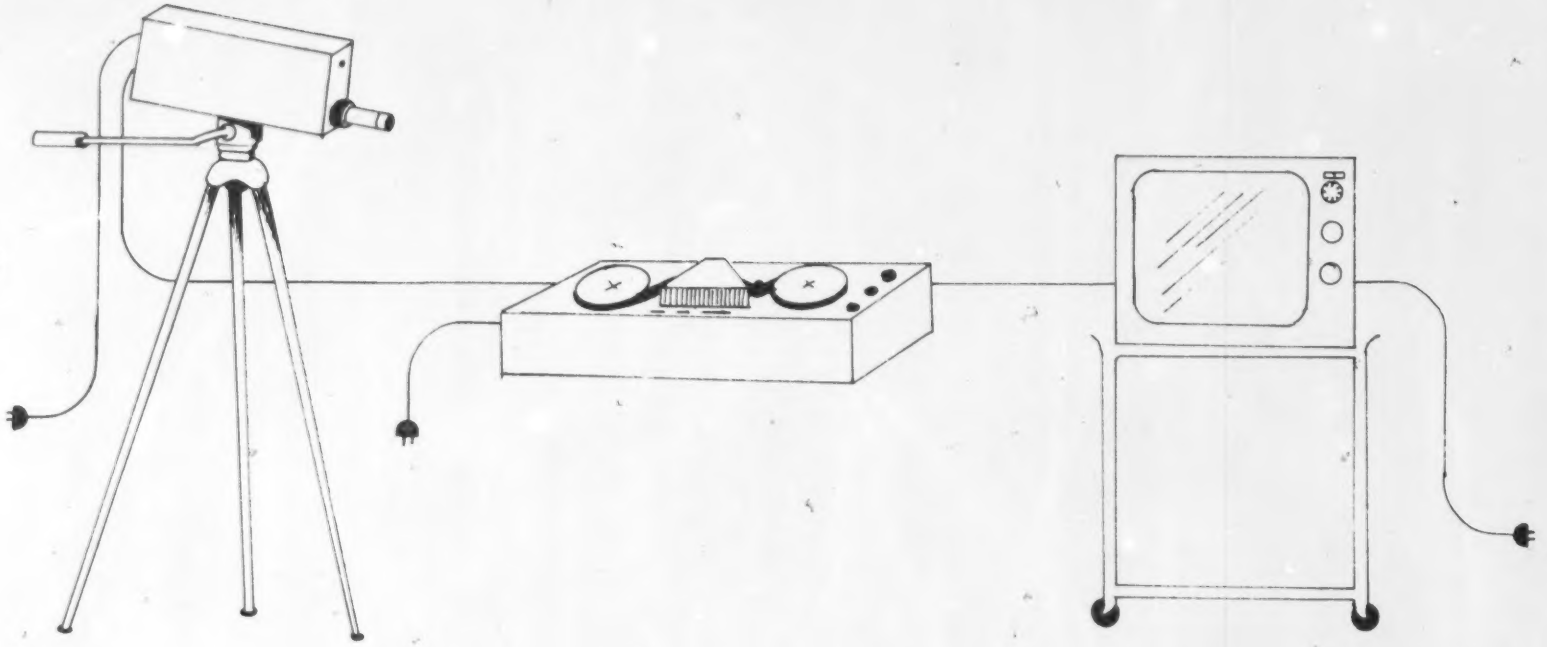
APPENDIX B

SIMPLE VIDEO SYSTEM–CAMERA AND MONITOR



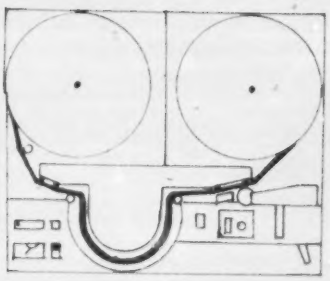
APPENDIX C

COMPLETE VIDEOTAPE SYSTEM–VTR ADDED

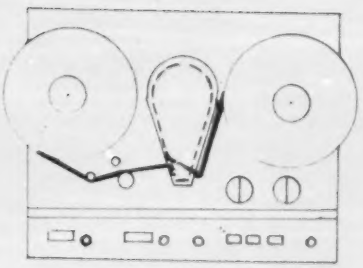


APPENDIX D

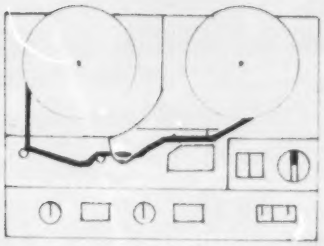
THREADING PATTERN OF SEVERAL VTR MODELS



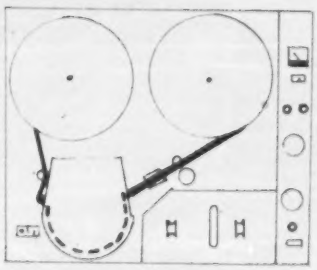
Model A



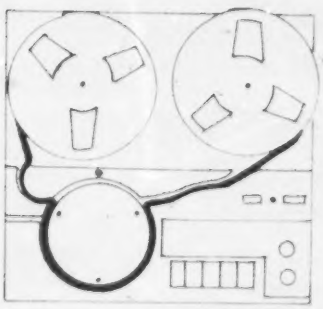
Model D



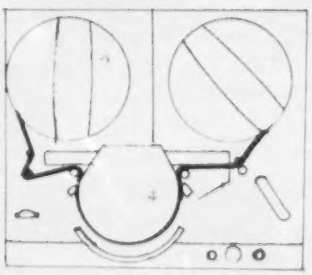
Model B



Model E



Model C



Model F

APPENDIX E

THE ABOVE DRAWING DEPICTS THE SLANT TRACK RECORDING, RESULTING FROM THE HELICAL SCAN FOUND ON MOST VTR'S.

PROJECT: Michael C. Hutton (Start-up)

MEDIA: Cassette Videotape

VISUAL	Visual Time	Audio Time	NARRATION
Close-up view of dummy customer order with edit sheet attached to order. This scene must be videotaped in the studio.	As needed	0.38	The following is a brief introduction to the Michael C. Hutton Company's order-entry system. Before customer's orders are sent to the CRT operators, they are edited to make sure they are readable and that the item and color numbers are complete. An edit sheet is also attached to each order. The edit sheet contains standard information such as the lookup key to be used, customer's order and department number, and if the customer has ordered in boxes or dozens. This edit sheet is laid out in the same format as the screen on which the information is to be entered.
View of CRT operator prerecorded. Close-up of screen described in narration (OELV, sec. 1 p. 1) must be videotaped in studio. This close-up is to be edited into view of CRT operator at appropriate time (as per narration). See attached sample of screen # 1. OELV Sec. 2 p. 1. Reading: 22-38	Prerecorded 0.35 Additional time to be recorded as needed.	0.33	The first screen used in the order-entry system is the key-entry screen. It is used for looking up the "ship to" address that appears on the customer's order. This is done by entering a ten-position key. The first part of this key is the first five letters of the "ship to" name as it appears on the order or the customer's account number may be used. The second part of the key may be the customer's store number, zip code, or an abbreviation of the city and state.

VISUAL	Visual Time	Audio Time	NARRATION
View of CRT operator prerecorded. Close-up of screen described in narration (OELV, Sec. 2, p. 1) must be videotaped in studio. This close-up is to be edited into view of CRT operator at appropriate time (as per narration). See attached sample of screen # 2, OELV, Sec. 2, p. 1. Reading: 39-53	Prerecorded 0.30	0.32	This screen shows the address and the file for the key entered on the previous screen. It is checked with the customer's order to be sure it is the same and that the "bill-to" account is correct. In addition to selecting the address from this screen, the correct point-of-sale code for the type of order being processed must be selected. This point-of-sale selection provides the necessary information for pricing the order. The selection is based primarily on the territory that is to be credited for this sale.
View of CRT operator prerecorded. Close-up of screen described in narration (OEOI, Sec. 1, p. 1) must be videotaped in studio. This close-up is to be edited into view of CRT operator at appropriate time (as per narration). See attached sample of screen # 3. OEOI, Sec. 1, p. 1. Reading: 54-68	Prerecorded 0.30 Additional time to be recorded as needed.	0.32	This is the order initiation screen. It shows the "ship to" address and the standard shipping point and order type based on where the order was entered. If the order is to be shipped from a location other than from where it was entered, it will be coded on this screen. We can also alter the order type into the customer's vendor number and department number or make any necessary changes in the "ship to" address. Any special instructions for the CRT operators will also be shown on this screen.

VISUAL	Visual Time	Audio Time	NARRATION
View of CRT operator prerecorded. Close-up of screen described in narration (OECD, Sec. 1, p. 1) must be videotaped in studio. This close-up is to be edited into view of CRT operator at appropriate time (as per narration). See Attached sample of screen # 4, OECD, Sec. 1, p. 1. Reading: 68-82	0.30 Additional time to be recorded as needed.	0.32	This screen gives Michael C. Hutton Company's order number that is to be assigned to the order. It also allows for entering other variable information such as the customer's order number, discount percent, new store code, and boxes code if the customer orders in boxes rather than dozens. A "ship to" address can also be entered on this screen for shipping an order to an address that is not in our files. This new address will be put in the files before the invoice is printed.
View of CRT operator prerecorded. Close-up of screen described in narration (OEPR, Sec. 1, p. 1) must be videotaped in studio. This close-up is to be edited into view of CRT operator at appropriate time (as per narration). See attached sample of screen # 5, OEPR, Sec. 1, p. 1. Reading: 83-100	Prerecorded 0.42 Additional time to be recorded as needed.	0.53	This is the product data screen and it is used to enter the item information. There can be up to 15 lines of information with each line having up to four quantities and item colors. When this screen is transmitted, all the information is checked against prices in inventory files. If any item or color is not in the files, the entire screen will be returned with blinking characters indicating the non-matching items. These must be corrected and the screen re-entered for another check. There can be as many product data screens used as is necessary to enter the complete order. On the last screen, the order must be ended to let the system know it has all the information. When the last screen has been processed, the key entry screen will reappear and make possible the beginning of the next order.

VISUAL	Visual Time	Audio Time	NARRATION
View of Printer. Reading: 100-127	Prerecorded 1.00	0.16	After the order has been entered, it is processed and sent back to a printer at the distribution center from which it is to be shipped. The shipping order is printed in item and color sequence to make it easy to pull the merchandise.
Close-up of sample Hutton's shipping order marked "Copy only Training purpose." This close-up must be videotaped in the studio.	As needed	0.30	On the top part of the shipping order are two labels. As the order is a three-ply form, six labels are available which are adequate for a large percentage of our orders. After the order is printed, it is matched with the original and a check is made for both the "sold-to" and "shipped-to" information. If everything checks out, the original is attached to the back of the shipping order and it is now ready to go to the shipping floor for processing.
View of items (small boxes) in shelves. Reading: 157-166	Prerecorded 0.27	0.15	The Michael C. Hutton Company arranges its products in the warehouse as you see them here. This arrangement allows the order picker to conveniently select the items required to fill the customer's order.
Zoom in on view of boxes in shelves to show numbers on shelves. Reading: 166-171	Prerecorded 0.11	0.10	Please note on the yellow strip below the individual boxes that item numbers and colors are shown for easy reference.

APPENDIX G

VIDEOTAPE PLANNING WORKSHEET

1. What do you plan to accomplish by videotaping the planned activities?

2. Who will be involved in the planning of the taping process?

3. What will be the role of those persons involved?

4. Who will be involved in the actual videotaping?

5. What will actually be taped?

6. How much time will be required for the taping?

7. What special equipment and/or conditions will be needed?

8. What regular equipment will be needed?

9. How expensive will the project be?

10. What standards of work or quality of work will you accept?

11. What special consultation will you need?

12. How will you evaluate your work?

APPENDIX H

CAMERA GUIDE

Symbol	Video Description
XLS	Extreme long shot
LS	Long shot
MS	Medium shot
MCU	Medium close-up
CU	Close-up
TCU	Tight close-up
2 shot	Two-shot
3 shot	Three-shot
0 shoulder	Over-the-shoulder

LIST OF INDUSTRY SERVICES LEADERSHIP DEVELOPMENT MODULES

I. **Orientation to Industry Services**

- A. Introduction to Industry Services
- B. Industry Services Leadership Development Program: Guide for Using the Self-Paced Instructional Modules

II. **Establishing Contacts and Relationships**

- A. Speaking to Industrial and Community Groups
- B. Writing Articles for News Media
- C. Identifying Functions of Agencies Involved in Industry Services
- D. Developing a Brochure for Industry Services

III. **Obtaining Agreements**

- A. Developing Training Agreements
- B. Developing a Lead-time Schedule
- C. Interpreting Legislation Related to Industry Services

IV. **Identifying Training Needs**

- A. Collecting Framework Production and Training Information
- B. Selecting Types of Training Programs
- C. Preparing a Budget for an Industry Services Project

V. **Acquiring Resources**

- A. Selecting Instructors for Industry Services
- B. Securing a Training Site
- C. Securing Training Equipment, Tools, and Supplies

VI. **Training Instructors for Industry Services**

Training Instructors for Industry Services

VII. **Preparing for Training**

- A. Adapting the Training Site to Training Needs
- B. Evaluating Safety Conditions at Training Sites
- C. Announcing the Opening of a Training Program

VIII. **Preparing Training Materials**

- A. Conducting a Task Analysis
- B. Developing Performance Objectives
- C. Determining Types of Instructional Methods and Media
- D. Developing Performance Tests
- E. Developing Training Manuals
- F. Preparing Videotapes for an Industry Services Program
- G. Setting Up Learning Centers for Industry Services Programs

IX. **Selecting Candidates**

Developing a Plan for Testing and Counseling Applicants for a Training Program

X. **Monitoring Training Programs**

- A. Assisting in Providing Pre-Employment and In-Plant Training
- B. Developing a Procedure for Keeping Participating Agencies Informed About Training Program Activities
- C. Monitoring Training Programs for Progress and Expenditures

XI. **Closing Training Programs**

Closing a Training Program

XII. **Placing Program Participants**

Developing a Plan for Placing Graduates of a Pre-Employment Training Program

XIII. **Evaluating Industry Services Programs**

Evaluating Industry Services Programs

Direct Inquiries To: Research and Curriculum Unit for Vocational-Technical Education, College of Education
Mississippi State University, D.Lowe DX
Mississippi State, MS 39762
(601) 325-2510